REMARKS

The fact that October 22, 205, fell on a Saturday ensures that this paper is timely filed as of Monday, October 24, 2005, the next business day.

In the Office Action dated August 22, 2005, pending Claims 1-17 were rejected and the rejection made final. In response Applicants have filed herewith an Amendment After Final and have amended Independent Claims 1, 9, and 17. Applicants intend no change in the scope of the claims by the changes made by this amendment. It should also be noted these amendments are not in acquiescence of the Office's position on allowability of the claims, but merely to expedite prosecution.

Claims 1-4, 9-12, and 17 stand rejected under 35 USC § 102(b) as being unpatentable over Flanagan et al. Various dependent claims stand rejected under 35 USC 103(a) over Flanagan et al. in combination with various references. Claims 5 and 13 stand rejected under 35 USC 21 103(a) as being unpatentable over Flanagan et al. in view of Beirle. Claims 6 and 14 stand rejected under 35 USC § 103(a) as being unpatentable over Flanagan et al. in view of Beirle and further in view of Sonmez et al. Claims 7 and 15 stand rejected under 35 USC § 103(a) as being unpatentable over Flanagan et al. in view of Beirle and Sonmez et al. and further in view of Ammar et al. Reconsideration and withdrawal of the present rejections is hereby respectfully requested.

As best understood, Flanagan et al. appears to be directed to a speech recognition system for use in an environment where the speaker is at a distance from the sound pickup device. (Col. 1, lines 14-17) In particular, Flanagan et al. appears to transform

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distant speech (speech recorded with a distant mic) into close-talk speech (speech recorded with a close mic) using a neural network. The training of the neural network uses two recordings of the SAME signal: the same speech recorded by a far away mic and a close mic. At test time, when the neural network is used to compensate for channel mismatch (different mic location), only one single channel is used: the distant speech and the neural network's output is the estimated close-talk version of the distant speech. Thus in the system of Flanagan et al. there is no interfering signal. Rather, the same signal is recorded at different location (with close and distant microphones) - the two channels containing the two recordings of the same signal are used only during the training phase of the neural network - it does not compensate for interference or noise but ONLY for channel mismatch (channel is different when speech is close or far from mic). When the Flanagan et al. system is operating, i.e., trying to compensate for the channel, there is only one channel input available: the distant speech.

Transforming distant speech into close speech in Flanagan et al. stands in stark contrast to the present invention. As discussed in the specification, the present invention generally relates to the multi-channel separation of a desired signal and of an interfering signal, by using a reference signal. (Page 1, Lines 1-3) In accordance with at least presently preferred embodiment of the present invention, this is accomplished by compensating for the effect of the interfering signal in the cepstral domain. (Page 7, Line 15-17) As discussed in the application, in comparison with conventional two-channel compensation techniques operating in the cepstral domain as described heretofore, a two-

channel compensation technique in accordance with at least one presently preferred

embodiment of the present invention has the following characteristics:

- one channel contains speech recorded in a mismatching environment, and the

other channel contains solely the source of mismatch (the source of mismatch here

is thus assumed to be recordable: single source of noise, music, competing

speech),

- the two-channel data are used in a decoding scheme, during the recognition

process,

- the source of mismatch in the second channel is not assumed to be stationary: a

new compensation vector is estimated for each input pair of frames.

These characteristics, and several others, allow the instant invention to be implemented in

real-time. (Page 9, Line 1 - Page 10, Line 8)

Claim 1 recites, *inter alia*, a first input medium which obtains an initial speech

signal; a second input medium which obtains at least one interfering signal, wherein said

one interfering signal is not statistically independent of said initial speech signal; a

normalizing arrangement which reconciles the initial speech signal and at least one

interfering signal with one another to produce a final speech signal; wherein said

reconciliation can be done in real-time. (emphasis added) Similar language appears in

the other independent claims.

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(590.043)

It is respectfully submitted that Flanagan et al. clearly falls short of present invention (as defined by the independent claims) in that, *inter alia*, it does not disclose reconciling the initial speech signal and at least one interfering signal with another to produce a final speech signal, wherein said reconciliation is done in **real-time**. As discussed above, in Flanagan et al. there is no interfering signal. The same signal is recorded at different location (with close and distant microphones) and the two channels containing the two recordings of the same signal are used only during the training phase of the neural network. Further, though Flanagan et al. assert that their invention can be used in "real-world" applications, this utilization has no direct effect on the computation time needed to implement their invention, nor does it teach or suggest implementation in real-time. Accordingly, Applicants respectfully submit that the applied art does not anticipate the present invention because, at the very least, "[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under construction." *W.L. Gore & Associates, Inc. v. Garlock*, 721 F.2d 1540, 1554 (Fed. Cir. 1983); *see also In re Marshall*, 198 U.S.P.Q. 344, 346 (C.C.P.A. 1978).

A 35 U.S.C. 103(a) rejection requires that the combined cited references provide both the motivation to combine the references and an expectation of success. Not only is there no motivation to combine the references, no expectation of success, but actually combining the references would not produce the claimed invention. It should be noted that even if another prior art reference has real-time capability, its combination with Flanagan et al. would not meet the limitations of implementation in real-time as in the instant invention. Because Flanagan et al. does not run in real-time, no combination of

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Flanagan et al. with another reference will have real-time implementation because the combination will be slowed by Flanagan et al. Thus, none of the references cited in the outstanding Office Action, in combination with Flanagan et al., meet the limitation of the independent claims. Correspondingly, none of these references in combination with Flanagan et al. meet the limitations of the dependent claims that they allegedly reject under 35 USC § 103(a). Thus, the claimed invention is patentable over the combined references and the state of the art.

By virtue of dependence from what are believed to be allowable independent Claims 1 and 9, it is respectfully submitted that Claims 2-8 and 10-16 are also presently allowable. Applicants acknowledge that Claims 8 and 16 were indicated by the Examiner as being allowable if rewritten in independent form. Applicants reserve the right to file new claims of such scope at a later date that would still, at that point, presumably be allowable.
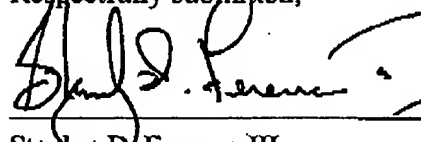
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In summary, it is respectfully submitted that the instant application, including

Claims 1-17, is presently in condition for allowance. Notice to the effect is hereby

earnestly solicited. If there are any further issues in this application, the Examiner is

invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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